

WHAT IS CLAIMED IS:

1. A resist pattern thickening material comprising:
a resin; and
a surfactant.
2. A resist pattern thickening material according to Claim 1, wherein the resist pattern thickening material is at least one of water-soluble and alkali-soluble.
3. A resist pattern thickening material according to Claim 1, wherein the surfactant is at least one selected from a non-ionic surfactant, a cationic surfactant, an anionic surfactant, and an amphoteric surfactant.
4. A resist pattern thickening material according to Claim 3, wherein the non-ionic surfactant is selected from a polyoxyethylene - polyoxypropylene condensation product compound, a polyoxyalkylene alkylether compound, a polyoxyethylene alkylether compound, a polyoxyethylene derivative compound, a sorbitan fatty acid ester compound, a glycerin fatty acid ester compound, a primary alcohol ethoxylate compound, a phenol ethoxylate compound, an alkoxylate surfactant, a fatty acid ester surfactant, an amide surfactant, an alcohol surfactant, and an ethylene diamine surfactant;
the cationic surfactant is selected from an alkyl cationic

surfactant, an amide quaternary cationic surfactant, and an ester quaternary cationic surfactant; and

the amphoteric surfactant is selected from an amine oxide surfactant and a betaine surfactant.

5. A resist pattern thickening material according to Claim 1, wherein the resin is at least one of water-soluble and alkali-soluble.
6. A resist pattern thickening material according to Claim 1, wherein the resin is at least one selected from a polyvinyl alcohol, a polyvinyl acetal, and a polyvinyl acetate.
7. A resist pattern thickening material according to Claim 1, wherein the resin has a cyclic structure in at least a portion thereof.
8. A resist pattern thickening material according to Claim 7, wherein the cyclic structure is selected from at least one of an aromatic compound, an alicyclic compound, and a heterocyclic compound.
9. A resist pattern thickening material according to Claim 1, further comprising a cyclic structure-containing compound.
10. A resist pattern thickening material according to Claim 9, wherein the cyclic structure-containing compound is at least one of water-soluble and alkali-soluble.

11. A resist pattern thickening material according to Claim 9, wherein the cyclic structure-containing compound is selected from at least one of an aromatic compound, an alicyclic compound, and a heterocyclic compound.

12. A resist pattern thickening material according to Claim 11, wherein

the aromatic compound is selected from a polyphenol compound, an aromatic carboxylic acid compound, a naphthalene polyhydroxy compound, a benzophenone compound, a flavonoid compound, a derivative thereof, and a glycoside thereof; and

the alicyclic compound is selected from a polycycloalkane, a cycloalkane, a steroid, a derivative thereof, and a glycoside thereof.

13. A resist pattern thickening material according to Claim 1, further comprising an organic solvent.

14. A resist pattern thickening material according to Claim 13, wherein the organic solvent is at least one selected from an alcohol solvent, a chain ester solvent, a cyclic ester solvent, a ketone solvent, a chain ether solvent, and a cyclic ether solvent.

15. A resist pattern comprising:

a resist pattern thickening material to cover a surface of a

resist pattern to be thickened so as to thicken the resist pattern to be thickened,

wherein the resist pattern thickening material is applied onto the resist pattern to be thickened after forming the resist pattern to be thickened, and the resist pattern thickening material comprises:

a resin; and

a surfactant.

16. A process for forming a resist pattern, comprising the steps of:
- forming a resist pattern to be thickened;
 - coating a resist pattern thickening material so as to cover a surface of the resist pattern to be thickened; and
 - forming a resist pattern in which the resist pattern to be thickened is thickened
- wherein the resist pattern thickening material comprises a resin; and a surfactant.

17. A process for forming a resist pattern according to Claim 16, wherein developing processing of the resist pattern thickening material is carried out after coating of the resist pattern thickening material.

18. A semiconductor device comprising a pattern formed by using a resist pattern which has been thickened by a resist pattern thickening material wherein the resist pattern thickening material comprises a

resin; and a surfactant.

19. A process for manufacturing a semiconductor device comprising the steps of:

forming a resist pattern wherein, after forming a resist pattern to be thickened on an underlying layer, the resist pattern to be thickened is coated by a resist pattern thickening material so as to cover a surface of the resist pattern to be thickened, so as to form a resist pattern in which the resist pattern to be thickened is thickened; and

patterning the underlying layer by etching by using the resist pattern

wherein the resist pattern thickening material comprises a resin; and a surfactant.

20. A process for manufacturing a semiconductor device according to Claim 19, wherein a material of the resist pattern to be thickened is at least one selected from novolak resists, polyhydroxystyrene (PHS) resists, acrylic resists, cycloolefin - maleic acid anhydride resists, cycloolefin resists, and cycloolefin - acryl hybrid resists.